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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,579	12/12/2003	Kyung-Ah Kim	Q77326	8600
23373	7590	03/03/2009		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER ANDRAMUNO, FRANKLIN S	
			ART UNIT 2424	PAPER NUMBER
			MAIL DATE 03/03/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,579

Applicant(s)

KIM, KYUNG-AH

Examiner

FRANKLIN S. ANDRAMUNO

Art Unit

2424

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-19, 21, and 23-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17-19, 21, and 23-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/09/09 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (US 2005/0278741) in view of Lee et al. (US 6,463,428) in view of Saito et al (US 2003/0140309 A1).

Regarding claim 1, Roberts et al. ("Roberts") teaches a content program information search system comprising: a server (Fig. 3--42) logically connected to a first database (Fig. 3--EPG database 86) configured to store a plurality of search terms inputted from external devices (paragraph 48, 49 and 85); and a digital signal receiver

configured to detect and to display for a selected search term of the plurality of search terms at least one of a content signal and detailed content information from a digital signal transmitted from a transmitter (paragraph 77, 82), wherein said server is configured to extract from the first database and to transmit to the transmitter at least one transmission search term of the plurality of search terms (paragraphs 47, 48 and 49).

Robarts, however, fails to clearly teach extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter.

In analogous art, Lee et al. ("Lee") teaches extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter (col. 5, lines 1-16--extracted keywords could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter, as taught by Lee, in order

make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

However, Roberts and Lee fail to teach a system wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device. Saito discloses on **(step S4 in figure 3)** acquire topic-specific frequency of occurrence of each word. Moreover, Saito discloses on **(page 3 paragraphs (0050) and (0051))** figure 3 is a flowchart steps consisting of a data base creating process performed by the agent program. Figure 2 is a block diagram depicting a typical structure of a personal computer in which the agent program is installed and executed. This shows that the search of frequency terms in step s4 of figure 3 of the agent program are then sent to an external device such as personal computer.

Therefore, it would have been obvious at the time of the invention to include the use of a search frequency at which the search terms are input from the external input device. This is a useful combination because the system is capable of browsing through a list of keywords and filtering them before inserting them to a dictionary.

Regarding claim 2, Roberts teaches an internet service provider (Fig. 3--94) configured to provide a path to transmit the selected search term of the plurality of search terms from an external device of the external devices to the first database (paragraphs 52, 53 and 85), the external device being at least one digital signal receiver (Fig. 3--64) connected to said internet service provider.

Regarding claim 3, Roberts teaches wherein said digital signal receiver includes: a detector configured to detect the at least one transmission search term of the plurality of search terms from the digital signal (Fig. 3--74; paragraph 45); a list generator configured to generate a search term list by arrangement of the detected transmission search term (Fig. 6--202,204,206, etc.); a controller (Fig. 5--102; paragraph 63) configured to control display of the generated search term list if a user request for a search is inputted, and, if the selected search term is selected from the displayed search term list, to control the display of the detailed content information for the selected search term (Fig. 7; paragraph 82); a graphic engine configured to provide in a displayable form the search term list and the detailed content information for the selected search term according to control of said controller (Fig. 7--EPG graphical user interface); a display unit configured to display at least one of the search term list and the detailed content information provided by said graphic engine (Fig. 3--broadcast enabled personal computer); and a communication interface configured to transmit the selected search term to the first database (paragraph 53--back channel).

Roberts, however, fails to clearly teach generating a search term list based on the order of priority. In analogous art, Lee teaches generating a search term list based on the order of priority (col. 5, lines 1-16--extracted keywords in the list could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Roberts by generating a search term list based

on the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

Regarding claim 4, Roberts teaches wherein said server further comprises a second database configured to store content program guide information including the detailed content information (Fig. 3--82, 80), the server configured to transmit to the transmitter the broadcast program guide information (paragraph 47) and the at least one transmission search term of the plurality of search terms according to the order of priority (paragraph 48 and 49).

Regarding claim 7, Roberts teaches an internet service provider (Fig. 3--94) providing a path for transmitting the selected search terms of the plurality of search terms transmitted from the external devices to the first database (paragraphs 52, 53 and 85), wherein at least one external device of the external devices is a terminal configured to input and to output data and is configured to be connected to said internet service provider (Fig. 3--66 and/or 68).

Regarding claim 23, Roberts teaches the content program information search system as claimed in claim 1, wherein the search frequency corresponds to a frequency at which the search **(The EPG then creates a unified query which combines the three queries to jointly identify programs (page 2 paragraph (0021) lines 7-9))** terms are typed in by the user **(The keypad has ten numerical keys which also correspond to associates letters (page 2 paragraph (0024) lines 4-6))**.

Regarding claim 24, Roberts teaches the content program information search system as claimed in claim 1, wherein the search frequency corresponds to a frequency

at which the search terms are selected by the user **(The viewer can define a query for identify any programs mentioning (page 2 paragraph (0023) lines 8-12))**.

3. Claims 8-15, 17-19, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts et al. (US 2005/0278741) in view of Lee et al. (US 6,463,428) in view of Kikinis (US 7,213,256 B1) in view of Saito et al (US 2003/0140309 A1). Hereinafter referred as Robarts, Lee, Kikinis and Saito.

Regarding claims 8 and 11, Robarts et al. ("Robarts") teaches a content program information search system comprising: a server (Fig. 3--42) logically connected to a first database (Fig. 3--EPG database 86) configured to store a plurality of search terms inputted from external devices (paragraph 48, 49 and 85); and a digital signal receiver configured to detect and to display for a selected search term of the plurality of search terms at least one of a content signal and detailed content information from a digital signal transmitted from a transmitter (paragraph 77, 82), wherein said server is configured to extract from the first database and to transmit to the transmitter at least one transmission search term of the plurality of search terms (paragraphs 47, 48 and 49).

Robarts, however, fails to clearly teach extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter.

In analogous art, Lee et al. ("Lee") teaches extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter (col. 5, lines 1-16--extracted keywords could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Roberts by extracting and transmitting at least one search term based on an order of priority based on search frequency and said digital signal receiver is configured to display in the order of priority the at least one transmission search term transmitted from the transmitter, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

However, Roberts and Lee fail to teach the digital signal receiver is an external device. Kikinis discloses in (**column 5 lines 19-22**) the processor (410) in the described embodiment acts under program control by a program stored in program logic memory (440) to perform the previously described expanded search functions (305). Figure 4 shows the memory (440) to be external from the system.

Further, it would have been obvious at the time of the invention to include the use of an external recording digital receiver to act as an external device. This is a useful combination because an external recording device allows a system for user friendly exchange of data.

However, Roberts, Lee and Kikinis fail to teach a system wherein the search frequency corresponds to a frequency at which the search terms are input from the external input device. Saito discloses on **(step S4 in figure 3)** acquire topic-specific frequency of occurrence of each word. Moreover, Saito discloses on **(page 3 paragraphs (0050) and (0051))** figure 3 is a flowchart steps consisting of a data base creating process performed by the agent program. Figure 2 is a block diagram depicting a typical structure of a personal computer in which the agent program is installed and executed. This shows that the search of frequency terms in step s4 of figure 3 of the agent program

Therefore, it would have been obvious at the time of the invention to include the use of a search frequency at which the search terms are input from the external input device. This is a useful combination because the system is capable of browse through a list of keywords and filter them before inserting them to a dictionary.

Regarding claim 9, refer to the rejection of claim 12.

Regarding claim 10, Roberts teaches wherein the digital signal receiver is an internet-accessible web television receiver (Fig. 3--64, 94; paragraph 50-- supplemental content can be web pages).

Regarding claim 12, Roberts teaches wherein said digital signal receiver includes: a detector configured to detect the at least one transmission search term of the plurality of search terms from the digital signal (Fig. 3--74; paragraph 45); a list

generator configured to generate a search term list by arrangement of the detected transmission search term (Fig. 6--202,204,206, etc.); a controller (Fig. 5--102; paragraph 63) configured to control display of the generated search term list if a user request for a search is inputted, and, if the selected search term is selected from the displayed search term list, to control the display of the detailed content information for the selected search term (Fig. 7; paragraph 82); a graphic engine configured to provide in a displayable form the search term list and the detailed content information for the selected search term according to control of said controller (Fig. 7--EPG graphical user interface); a display unit configured to display at least one of the search term list and the detailed content information provided by said graphic engine (Fig. 3--broadcast enabled personal computer); and a communication interface configured to transmit the selected search term to the first database (paragraph 53--back channel).

Robarts, however, fails to clearly teach generating a search term list based on the order of priority. In analogous art, Lee teaches generating a search term list based on the order of priority (col. 5, lines 1-16--extracted keywords in the list could be ranked based on frequency in which the keyword appeared; col. 7, lines 19-29--server operating offsite through a link).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by generating a search term list based on the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

Regarding claim 13, Roberts teaches an internet service provider (Fig. 3--94) configured to provide a path to transmit the selected search term of the plurality of search terms from an external device of the external devices to the first database (paragraphs 52, 53 and 85), the external device being at least one digital signal receiver (Fig. 3--64) connected to said internet service provider.

Regarding claim 14, Roberts teaches wherein the search mode is at least one of a search mode based on search frequency, a search mode based on a proper noun extracted from the content program guide information, a search mode based on an input text, and a search mode based on a program content category (paragraph 78--categories; paragraph 82--text search mode).

Regarding claims 15 and 17, refer to the rejections of claims 11 and 13.

Regarding claim 18, Roberts teaches wherein said server further comprises a second database configured to store content program guide information including the detailed content information (Fig. 3--82, 80), the server configured to transmit to the transmitter the broadcast program guide information (paragraph 47) and the at least one transmission search term of the plurality of search terms according to the order of priority (paragraph 48 and 49).

Regarding claim 19, refer to the rejections of claim 11. In addition, Lee discloses the order of priority is based on a search frequency of the selected search term (**list could each be ranked based on frequency weighted by the context in which the keyword appeared (column 5 lines 14-16).**

Regarding claim 21, refer to the rejections of claim 13.

4. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robarts in view of Lee in view of Saito, as applied to claims 1,3, 4 and 5 above, and further in view of Hori et al. (US 7,209,942).

Regarding claim 5, Robarts teaches wherein said detector is configured to detect the content program guide information from the digital signal (Fig. 3--program info), and if the user request for the search in at least one of a noun search mode based on a proper noun, a text search mode based on text input, and a category search mode based on a category is received, the controller controls searching for a desired content program from the content program guide information according to the search mode requested (paragraph 78--categories; paragraph 82--text search mode).

Robarts and Lee fail to explicitly teach a proper noun extractor configured to extract at least one proper noun from the detected content program guide information and a proper noun storage configured to store the extracted proper noun.

In analogous art, Hori et al. ("Hori") teaches a proper noun extractor (Fig. 1--102) configured to extract at least one proper noun from the detected content program guide information and a proper noun storage (Fig. 1--103) configured to store the extracted proper noun (col. 7, lines 14-17 and lines 31-58; col. 8, lines 5-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts and Lee by incorporating a proper noun extractor configured to extract at least one proper noun from the detected content

program guide information and a proper noun storage configured to store the extracted proper noun, as taught by Hori, in order to extract and store important words such as a proper noun (Hori: col. 7, lines 14-17).

Regarding claim 6, Robarts teaches wherein said digital signal receiver further includes: an information storage configured to store the detected content program guide information (Fig. 5--72). Robarts, however, fails to clearly teach a search term storage configured to store the at least one transmission search term according to the order of priority.

In analogous art, Lee teaches a search term storage (Fig. 1--235) configured to store the at least one transmission search term according to the order of priority (col. 5, lines 1-16--extracted keywords could be ranked based on frequency in which the keyword appeared; col. 5, lines 11-14 and col. 15, lines 17-22--terms that occur with some degree of frequency could be stored in a keyword list).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Robarts by a search term storage configured to store the at least one transmission search term according to the order of priority, as taught by Lee, in order make the number of possible keywords easier to handle and easier to select (Lee: col. 5, lines 1-5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKLIN S. ANDRAMUNO whose telephone number

is (571)270-3004. The examiner can normally be reached on Mon-Thurs (7:30am - 5:00pm) alternate Fri off (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chris Kelley/
Supervisory Patent Examiner, Art
Unit 2424